

Positioning speakers

LOCATION, LOCATION, LOCATION!

Even the best loudspeakers in the world can sound terrible. That's because loudspeakers are only one link in the audio system chain, and their performance can be compromised, or enhanced, by a long list of factors.

One of the most important of these, however, is how and where the loudspeakers are positioned. And closely aligned to that subject is the issue of speaker size relative to room size. Let's deal with the latter first.

All loudspeakers interact with the room they are being operated in. However, the performance of a small speaker in a large space will not be influenced by room acoustics in nearly the same way as a large speaker in a small space.

Large speakers usually have a greater propensity for low-frequency performance, and low frequencies are emphasised by walls and corners. Thus, a big speaker producing lots of bass in a small room will sound boomy, because the bass will be over-emphasised.

But even small speakers interact with the room they are playing in, regardless of size. High frequencies tend to reflect against hard surfaces such as empty walls, tiled floors and large glass surfaces, leading to a sound that is overly bright.

So, in selecting loudspeakers, take into account the room they will be used in, both in terms of its size and acoustic nature. In some instances, the room itself may need some acoustic treatment to reduce either bass boom or treble zing. In the case of the latter, carpets and bookshelves can make a big difference.

But let's move on to the issue of speaker placement. In a stereo system, you need to position the left and right channel speakers in such a way that they are equidistant from each other, and also equidistant from the listening

position, thus forming an even-sided triangle.

That, at least, is the theory, and it's also a good starting point. Next, it's best, if at all possible, to keep the speakers away from the rear and side walls, and especially from corners, in order to combat any unnatural low-frequency emphasis that can lead to the bass boominess described above.

Some speakers are more sensitive to placement than others, though, and especially smaller speakers that don't reach down that low sometimes even benefit from placement slightly closer to side or rear walls as far as bass response is concerned.

Moving the speakers closer together relative to the listening position will increase the illusion of depth, but decrease the width of the sound-

stage. Conversely, moving the speakers further apart will increase the width of the sonic picture, but reduce the depth.

Toeing in the speakers towards the listening position, or facing them directly forward, in line with the side walls, will also have an impact on the sound image and its focus. Toed in directly towards the listening position should snap the sound image into focus, but may reduce the perceived size of the sound-

stage. Toeing them out towards the walls may make the sound picture seem larger, but could compromise focus and pin-point imaging.

Even small adjustments can make a big difference, and it's worthwhile experimenting to find a position that suits the speakers, the room acoustics and, of course, personal preference. I use masking tape scaled in centimetres to create a grid of the room, and then move speakers incrementally, until I've found the position that works best.

Home theatre speaker configurations are a little less critical, because the levels and delays are set during the calibration process. However, the three front speakers should be evenly spaced, with the left and right front speakers toed in towards the listening position.

The surrounds should be on either side of the listening position, facing towards it, and slightly above. Surround back speakers should be mounted higher and behind the listening position.

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